Stormwater

OVERVIEW

Stormwater systems collect water runoff from impervious surfaces, enabling the water to drain away from structures. The City of Eugene and Lane County provide stormwater services to residents in River Road and Santa Clara. The City provides infrastructure for annexed residents; the County's provision of stormwater services is limited to maintenance of stormwater infrastructure on roadways. The City and County have divided the River Road and Santa Clara areas for the maintenance of stormwater management services along roadways.

The remainder of this section is organized as follows:

- **Understanding the service** describes how stormwater services are typically delivered in urban areas, and describes the issues and analytical concerns associated with delivering the service.
- **Existing services and providers** describes the agencies and districts that provide the services and the level of service they provide.
- **Fiscal analysis** describes the costs to provide existing services. It also discusses revenues collected that are directly connected to delivering stormwater services, how revenues in River Road and Santa Clara compare to revenues within the City of Eugene, and how expected growth and change in demand for services resulting from annexation would impact costs and revenues.
- **How different groups view the issues** describes service providers and service recipients' perspectives on the current level of service.
- **Conclusions** provides a summary of stormwater services.

UNDERSTANDING THE SERVICE

Stormwater is water that runs off any hard surface, including roads, sidewalks and roofs. It includes rainwater and any other water that flows along streets, including water draining from driveways after someone washes a car, and water running off a lawn.

URBAN LEVEL OF SERVICE

A typical stormwater system in the United States consists of gutters and drains that collect runoff. Some cities have combined sewer systems, where storm runoff is collected into the same network of pipes as wastewater from buildings. The combined flows are directed to a treatment plant, where the storm runoff is treated with the wastewater. A combined sewer system is problematic during large storm events, where the runoff is greater than the capacity of the treatment facility, and the combined flow must be released into a waterway without being treated.

Other communities have separate sewer systems. Wastewater from buildings flows through pipes that lead to a treatment plant, where the wastewater is treated before being released into a waterway. The stormwater runoff flows through pipes that drain directly to waterways. The runoff is not treated.

The City of Eugene has a separate sewer system. The stormwater collection system includes all publicly maintained pipes, culverts, gutters, catch basins, ditches, channels, ponds, wetlands and related waterways. Stormwater is not treated before it enters the storm drainage system, which leads directly to nearby waterways. In eastern Eugene, storm drains empty into the Mill Race and the Willamette River. In western Eugene, storm drains flow into Amazon Creek, which leads north to Fern Ridge Reservoir. Fern Ridge discharges to the Long Tom River, which ultimately reaches the Willamette River downstream.

In Eugene, as in most U.S. cities, stormwater collection systems are made up of pipes, drains, and gutters. The system collects runoff from the City's impervious surfaces and delivers it to waterways. Gutters, drains, and storm sewers convey runoff rapidly to stream channels. Such stormwater systems have been very effective at minimizing flood damage and draining water away from properties. But the systems have also inflicted costs on waterways. Research has shown that impervious surfaces associated with urban areas lead to increased surface erosion, higher and faster storm flows in streams, and increased channel erosion.[1]

There are many tools available to cities to protect their natural waterways. One tool proposed by watershed planners is that local jurisdictions modify their land use code to reduce the creation of impervious surfaces. Existing codes often result in the creation of needless impervious cover, such as wide streets and parking requirements. Strategies to minimize impervious cover include changing the code to reduce mandated residential road widths, require sidewalks on only one side of the street, and use swales instead of curbs and gutters to direct runoff.[2]

The federal Clean Water Act is the primary federal legislation that protects surface waters, such as lakes, rivers, and coastal areas. The 1987 amendments to the Clean Water Act required the Environmental Protection Agency to develop a comprehensive, phased program to regulate stormwater discharges under the National Pollution Discharge Elimination System (NPDES) program. The NPDES "Phase I rule," issued in November 1990, mandated that communities with more than 100,000 residents begin reducing the discharge of stormwater pollutants into streams and rivers. In Oregon, the NPDES program is administered by the Oregon Department of Environmental Quality (DEQ). The City of Eugene received its NPDES Phase I Stormwater Permit from the DEQ in November 1994.

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[1] Booth, D.B. and C.R. Jackson. 1997. "Urbanization of Aquatic Systems: Degradation Thresholds, Stormwater Detection, and the Limits of Mitigation." *Journal of the American Water Resources Association*, 33:5, Page 1078, and
Allen, J., A. Salamack, and Page Schoonmaker, Restoring the Willamette Basin: Issues and Challenges. Institute for the Northwest for the U.S. Army Corps of Engineers. 1999. Page 17

[2] Center for Watershed Protection. Site Planning for Urban Stream Protection. (http://www.cwp.org/pubs_download.htm).

In addition to applying for a Phase I permit from the DEQ, the City of Eugene developed and adopted a Comprehensive Stormwater Management Plan (CSWMP) that laid the groundwork for change to stormwater management. The Plan enables the City to integrate flood control measures with federal water quality mandates while protecting related wetlands and natural resources within the City limits.

The Stormwater Plan marked a significant change in the way the City of Eugene understands, manages, and maintains stormwater runoff. Eugene's response to federal water quality mandates was to integrate flood control and drainage services, water quality treatment, and the protection of natural resources that meld stormwater functions into a comprehensive management approach. The CSWMP makes it policy that stormwater systems will incorporate the beneficial functions (flood control, stormwater conveyance, water quality treatment) of natural resources into the City's storm drainage system. The City has policies to use natural systems, where applicable, to treat and store runoff. The City is to encourage environmentally sound stormwater management practices, and require consideration of steps to improve water quality. These include natural and simple treatment systems for contaminated runoff waters, protecting natural water features and drainage ways to the maximum extent practicable, and using on-site systems, such as infiltration and detention facilities to delay the volume and rate of stormwater runoff.

A key tool in stormwater management in Eugene is a "Stormwater Basin Management Plan." Stormwater Basin Master Plans document stormwater management strategies for each basin. There are seven stormwater basins in Eugene, and at this time six Basin Master Plans have been completed. The only basin in Eugene lacking a final Basin Master Plan is the River Road/Santa Clara area. An "Initial Study Towards the Development of a Stormwater Basin Master Plan" was drafted in 2002. The City of Eugene, in partnership with Lane County, will complete the River Road Santa Clara Basin Plan under a provision of the 2004 Stormwater intergovernmental agreement (IGA).

Lane County is subject to the NPDES "Phase II" rule that covers all small municipal separate stormwater systems located within an urbanized area. Lane County applied for a Phase II Stormwater Permit from the DEQ in March 2004. They expect to be issued their permit by the end of 2004. In light of the Phase II regulations, in May 2004 Lane County and the City of Eugene entered into a new IGA for stormwater services for the Eugene urban growth boundary. Under the 2004 Stormwater IGA, the County is to provide stormwater services in unincorporated areas inside Eugene's UGB. The City of Eugene, in partnership with Lane County, will complete the River Road Santa Clara Basin Plan under a provision of the 2004 Stormwater IGA.

ISSUES AND ANALYTICAL CONCERNS

As discussed above, a key tool for stormwater management in Eugene is the Stormwater Basin Master Plan. These plans lay out comprehensive plans for future stormwater systems changes. Because the River Road/Santa Clara area lacks a final Basin Master Plan, we are unable to describe what a full level of urban service for stormwater management would look like in the area.

Although we do not know what the stormwater plan would look like, we can describe the issues propelling changes in stormwater management. An important policy directive was the 1987 federal Clean Water Act. The CWA raised the bar for water quality in U.S. streams and rivers. The City responded to the CWA with a revised comprehensive stormwater management plan that established the need and policy directives to better manage the storm runoff in Eugene. Since the City created a new stormwater management plan, new federal actions have again raised the bar for water quality. In 1999, the National Marine Fisheries Service listed the upper Willamette River Chinook salmon and the upper Willamette River steelhead as threatened under the federal Endangered Species Act.[3] The City of Eugene's stormwater runoff now impacts the habitat of a federally protected species.

With the implementation of NPDES Phase II regulations and the listing of endangered species, DEQ is concerned that more jurisdictions and agencies will turn to injection systems for stormwater disposal not realizing the potential environmental impacts. The Underground Injection control (UIC) regulations, under the Safe Drinking Water Act, are intended to protect groundwater aquifers from contamination. DEQ administers the UIC Program; both Lane County and the City of Eugene subject to these regulations and are in the process of developing respective strategies for addressing them.

The City of Eugene under the NPDES Phase I regulations, and now Lane County urbanized areas, under the NPDES Phase II regulations, must meet the higher standards mandated by the federal government. This is not simple. Urban areas have been shown to contribute large amounts of pesticides and herbicides to the Willamette River. A DEQ study found the five chemicals, typically associated with agricultural activities, had significantly higher concentrations at urban sites than agricultural sites in the Willamette Basin.[4] The higher concentrations in urban areas are likely caused by homeowners over applying fertilizers, pesticides, and herbicides. Additionally, urban areas throughout the Willamette basin contribute the greatest amount of suspended sediment to the Willamette River on a per-acre basis.[5]

It is likely that a less traditional stormwater system in River Road/Santa Clara would help the City and County attain stormwater runoff goals. A system that allowed the slow infiltration of runoff through soils, instead of rapid delivery from impervious surfaces to drains and to the river, may reduce the pollutants delivered to the Willamette River. The City and County acknowledge that, where it is not cost prohibitive, natural systems may be better than a piped system in some areas.[6]

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[3] National Marine Fisheries Service (http://www.nmfs.noaa.gov/prot_res/PR3/Fish/fishes.html). Downloaded May 25, 2004.

[4] Allen, J., A. Salamack, and Page Schoonmaker, Restoring the Willamette Basin: Issues and Challenges. Institute for the Northwest for the U.S. Army Corps of Engineers. 1999. Page 22. The five chemicals were carbaryl, diazinon, dichlobenil, prometon, and tebuthiuron.

[5] Allen, J., A. Salamack, and Page Schoonmaker, Restoring the Willamette Basin: Issues and Challenges. Institute for the Northwest for the U.S. Army Corps of Engineers. 1999. Page 17

[6] Personal communication with Kurt Yeiter, Principal Planner, Eugene Planning and Development, June 7, 2004.

An analytical issue regarding our discussion of fiscal impacts is that the Eugene Public Works Department receives all of its funding for stormwater systems from non-General Fund sources. Most of the other services discussed in this report are General Fund services that receive the majority of funding from those monies, such as property taxes, that are not dedicated to specific purposes and can be used for general City services. We focused our analysis on General Fund costs because those costs are most closely tied with property taxes and other revenues that are related to the residents of River Road and Santa Clara.

EXISTING SERVICES AND PROVIDERS

The City of Eugene and Lane County provide stormwater services to residents in River Road and Santa Clara. Stormwater services vary between River Road and Santa Clara, and between annexed and unannexed properties. Even within categories of properties, the level of service varies.

The City of Eugene and Lane County have an IGA to divide operation and maintenance services for roads and drainage. Lane County maintains the stormwater systems associated with the roadways north of Beltline, and the City maintains systems south of Beltline.[7] The County cleans and maintains the City's infrastructure, and the City does the same for the County. The City conducts a leaf pick-up on the west side of River Road north to Maxwell and on the east side of River Road north to the Beltline.[8] The County conducts a leaf pick-up program on the west side of River Road north of Maxwell Road and on the east side of River Road north of Beltline Road.

Under the 2004 IGA, the City will administer erosion control regulations inside the urban growth boundary (UGB) and will assist the County in implementing a new Illicit Discharge program. The City and County also plan to partner on stormwater educational and outreach programming.

The stormwater system includes built and natural drainage. The County only provides maintenance associated with roadways due to legal limitations of the Road Fund, which is the source of funds for the maintenance. The City maintains roadside ditches and culverts, enclosed stormwater pipe, catch basins, and wetlands. The runoff ultimately discharges to local natural systems, including streams, rivers, ponds, and wetland. The stormwater system is not connected to the regional Wastewater Treatment Plant—untreated runoff eventually drains to the Willamette River and the Amazon Creek Drainage system.

In the City of Eugene, "stormwater services" include stormwater management program, maintenance of the stormwater drainage system, restoration of wetlands, development regulation, stormwater public education, capital improvement and rehabilitation projects and acquisition of drainage ways and wetlands.

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[7] Beltline Road serves as a general boundary. The actual boundary varies from Beltline Road in some areas.

[8] Personal communication with Eric Johnson, City of Eugene Public Works Department, May 11, 2004

City residents and businesses pay a monthly stormwater fee, which is the major source of funding for ongoing maintenance and operation of the citywide stormwater system. No monthly stormwater fee is collected from homes or businesses in the unincorporated areas.

In River Road and Santa Clara, the City provides stormwater infrastructure for *annexed* properties. Typically, an annexed property connects to the City's system via the gutter on the street. A structure's drainpipes direct rainfall and other surface water to the gutter, which connects to the subsurface system. There are many annexed properties that do not connect to the City's stormwater system. The current policy of annexation has led to individual properties being part of the City, and surrounding properties are part of the County. It is impractical to provide a stormwater connection for such isolated properties.

In River Road and Santa Clara, *unannexed* properties are not connected to the City's stormwater system. Unannexed properties typically have no gutter on their streets to collect stormwater. Stormwater sheds off the pavement and other impervious surfaces onto adjacent land and either percolates into the ground or ponds on the surface. There are a number of catch basins, especially along recent road improvements, but also in older areas where a drainage system was installed in conjunction with a street improvement. There are also drywells, or stand-alone underground facilities that collect the stormwater before it percolates into the groundwater.

In Santa Clara, newer subdivisions contain curb and gutter stormwater collection systems, which then typically drain into the disconnected open waterway system. Because development in River Road is older than Santa Clara, it has many streets and roads without curbs and gutters, and stormwater drainage is gathered in grassy roadside ditches.

Lane County does not provide as comprehensive drainage services in the unannexed areas. The County only provides road-related stormwater and drainage services. The Lane County Public Works Department reports that the "County regularly receives flooding complaints that have no connection to the County road systems. In these cases, property owners are advised that the flooding is a civil matter between the complainant and the upstream or downstream property owners."[9]

New development in River Road and Santa Clara must meet the City's standards for stormwater drainage systems and pay associated systems development charges (SDCs).

HOW DO EXISTING SERVICES COMPARE TO CITY'S SERVICES?

Residents in River Road and Santa Clara receive less comprehensive stormwater services than residents in other parts of the City. The patchwork annexation pattern has made it impractical to provide complete service to annexed residents. The lack of

[9] Memorandum from Ollie Snowden, Lane County Public Works Director, to ECONorthwest, August 31, 2004.

a comprehensive system makes it more likely that runoff collects and pools throughout the area.

The area is the only stormwater basin in the City that lacks a Stormwater Basin Plan. The absence of such a plan inhibits long-term planning of stormwater systems. However, the Public Works Department plans to begin work on a Basin Master Plan and a comprehensive stormwater management strategy is under development now.[10]

FISCAL ANALYSIS

CITY OF EUGENE

The General Fund does not pay for the provision of stormwater services in the City of Eugene. Operating and maintenance (O&M) and capital costs are funded by the Stormwater Utility Fund, the Stormwater System Development Charge Fund, and the Special Assessment Capital Fund. We first discuss the City's O&M, and then capital.

OPERATING AND MAINTENANCE

Public Works' operating and maintenance budget for stormwater management for Fiscal Year 2003-2004 is $8 million and includes $4.9 million for personnel and $3.1 million for services and materials.[11] The allocation of Central Service costs is a department's share of the City's costs for central business functions. The Stormwater Fund pays for its share of Central Services out of it's nondepartmental budget so that administrative and financial costs are reflected in the Stormwater Fund and charged to users of stormwater services. However, that amount is not included in Stormwater's $8 million operating budget, so to understand total operating and maintenance costs associated with providing stormwater services in Eugene, we must add indirect costs for Central Services to Stormwater's budgeted amount. Stormwater's allocation for Central Services for Fiscal Year 03-04 is $0.5 million, resulting in total operations and maintenance cost of $8.5 million.

The Stormwater Utility Fund accounts for operating and maintaining the stormwater system and receives its revenues from monthly stormwater user fees. Stormwater user fees cover all costs for the provision of stormwater services for current users. The City of Eugene uses Stormwater Fees for:

- Repairing and maintaining stormwater lines,
- Street sweeping and collecting debris,
- Cleaning and maintaining catch basins,
- Collecting and recycling leaves in the annual leaf pick-ups,

[10] City of Eugene. *2004 – 2009 Draft Capital Improvement Program.* Page 75.

[11] City of Eugene. *Annual Budget – Fiscal Year 2004.* Page C.104.

- Eliminating illegal connections and discharges,
- Public education and volunteer programs,
- Developing plans, projects and standards, and
- Protecting, restoring and maintaining waterways and wetlands.

All properties with water service within the City of Eugene pay stormwater fees. Fees for residential stormwater customers are based on the amount of impervious surface on the property, including the house and garage/carport. Properties with more impervious surface pay a higher stormwater fee. Stormwater user fees also include a street-related component and an administrative charge. Table 10-2 shows the monthly fees for stormwater services.

Table 10-2. Stormwater Monthly Service Charges, City of Eugene, as of July 1, 2004

	Small Residential[1]	Medium Residential[2]	Large Residential[3]	Commercial/ Industrial[4]
Impervious Surface	$ 3.71	$ 5.97	$ 2.06 per 1,000 sf	$ 2.06 per 1,000 sf
Street-Related[5]	$ 1.02	$ 1.02	$ 1.02	$ 0.72 per 1,000 sf
Administrative (per account)	$ 0.30	$ 0.30	$ 0.95	$ 0.95
Total Monthly Fee	$ 5.03	$ 7.29	varies per square feet	varies per square feet

1. Small Residential Customer: Building footprint is equal to or less than 1,000 square feet.
2. Medium Residential Customer: Building footprint is greater than 1,000 square feet and less than 3,000 square feet.
3. Large Residential Customer: Building footprint is 3,000 square feet or greater.
4. All users other than single-family homes and duplexes are included as Commercial/Industrial.
5. Street-Related Charges are for street sweeping and the collection and recycling of leaves.
Source: City of Eugene, http://www.ci.eugene.or.us/pw/fees/proposed.htm.

CAPITAL

Capital projects include the acquisition or construction of a fixed asset that has a life expectancy greater than one year and monetary value greater than $5,000. Capital projects are included in a separate Capital Budget. The City of Eugene 2004-2009 Capital Improvement Program includes $2.6 million in capital projects for stormwater services for FY03-04. Capital expenditures are paid for from three different funds: the Stormwater System Development Charge Fund, the Special Assessment Capital Fund, and the Stormwater Utility Fund.[12] The Capital Improvement Program includes one project in the River Road and Santa Clara area: Beaver Street and Hunsacker Lane Stormwater Improvements. The final River Road.

The Stormwater Utility Fund receives most of its revenues from user fees. The Stormwater System Development Charge Fund receivers its revenues from systems development charges (SDCs), paid by developers of new properties. SDCs are

[12] City of Eugene. *Annual Budget – Fiscal Year 2004*. Page E.20.

designed to cover the cost of new stormwater infrastructure for new development. The Special Assessment Capital Fund accounts the special assessments levied against individual properties for public improvements, which primarily benefit that property's owners.

LANE COUNTY

The General Fund does not pay for the provision of stormwater services in Lane County. The County pays for stormwater O&M with the Road Fund, which it receives primarily from the State Highway Trust Fund.[13] The O&M is therefore limited to work on stormwater infrastructure associated with roads. In Fiscal Year 2003-2004 the County expended $18,000 in River Road and $110,000 in Santa Clara on stormwater and drainage maintenance, for total expenditures of $128,000.[14]

IMPACTS OF EXPECTED GROWTH AND CHANGE

CITY OF EUGENE

The City of Eugene addresses stormwater problems on a system-wide basis. Stormwater Basin Master Plans document stormwater management strategies for each basin. Basin plans have been completed for six of Eugene's seven stormwater basins.

In the absence of a final comprehensive stormwater management plan, there is no plan for future infrastructure, so it is not possible to estimate future costs of stormwater service in the River Road and Santa Clara area. We can assume that if the area were annexed, monthly service charges would equal what current residents pay as of July 1, 2004 (see Table 10-2). Calculating costs to property owners to upgrade stormwater connections (gutters, catchbasins, etc.) is outside the scope of this study.

Systems development charges (SDCs) are fees used to fund construction or expansion of public infrastructure necessary to support growth. Under the current annexation policy, any new development must annex to the City of Eugene, and thus pay current SDCs for stormwater:

- A small single-family house (up to 1,000 sq. ft) pays $266.40.
- A medium single-family house (greater than 1,000 sq. ft and less than 3,000 sq. ft) pays $429.20.
- Houses larger than 3,000 sq. ft, multi-family buildings, and nonresidential buildings pay $0.148 per sq. ft. of impervious surface.[15]

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[13] For a description of the Road Fund, see Chapter 11 of this report.

[14] Summary of Road Maintenance and Storm Drainage Maintenance Expenditure in River Road/Santa Clara, Lane County Public Works Department, October 7, 2004.

[15] City of Eugene Public Works Department (www.ci.eugene.or.us/PW/SDC/Rates.htm). Downloaded May 28, 2004.

The City of Eugene uses stormwater SDCs to acquire rights-of way and to construct and expand stormwater infrastructure including large diameter pipes, drainage ways, catch basins, and culverts.[16]

The Boundary Commission requires that a property receive a minimum level of stormwater services before it will approve annexation to the City of Eugene.[17] The City of Eugene interprets this requirement for existing development to mean that the City is responsible for approving a disposal system for stormwater, which does not have to be connected to the City's stormwater system, but may be a ditch, drywell, pond, creek, river or stormwater system pipe.[18]

The issue of connection to the stormwater system is not unique to the River Road/Santa Clara area. Other neighborhoods in Eugene have areas without gutters in the streets or connections to the City's stormwater system.

Because stormwater operations and capital are funded by users, the City's General Fund resources are not negatively impacted by annexation. Annexing individual homes and adding them to the system only marginally affects the drainage system. The property owner would pay for improvements (i.e., connections) to the property, and then monthly service fees cover operations.

LANE COUNTY

Under full annexation, it is likely that the Lane County Public Works Department would no longer be responsible for maintenance of stormwater infrastructure in the River Road/Santa Clara area. However, Lane County does not currently charge a stormwater user fee, therefore under current policy, the County's stormwater-related revenue should not be impacted by increased annexation.

HOW DIFFERENT GROUPS VIEW THE ISSUES

This section briefly summarizes the view that service providers and service recipients have toward the delivery of stormwater services in the River Road and Santa Clara areas.

The Urban Services Committee reported that **citizens of River Road and Santa Clara** are not pleased with the current level of stormwater services. Annexed residents pay a stormwater fee and new development pays the SDC, yet they believe that little maintenance is done. The report indicated that Lane County does not maintain all its waterways. The lack of a comprehensive system leads to poor drainage in many locations.[19]

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[16] City of Eugene Public Works Department (www.ci.eugene.or.us/pw/sdc/). Downloaded July 21, 2004.

[17] City of Eugene Annexation Information and Forms Packet: River Road/Santa Clara area, http://www.ci.eugene.or.us/pdd/Planning/Applications/annexation/rrsc.pdf.

[18] Personal communication with Kurt Yeiter, Principal Planner, Eugene Planning and Development, June 7, 2004.

[19] River Road and Santa Clara Urban Services Committee, *Final Report and Recommendations, Sept. 2002,* pp. 44-45.

The City of Eugene, with support from Lane County, will be working to complete a Stormwater Basin Management Plan for River Road/Santa Clara. Until such a plan is complete, the City and County Public Works Departments will continue to maintain the existing system under the current IGA. All City stormwater activities are funded by user fees, SDCs, and special assessments.

Lane County does not collect stormwater user fees, and currently funds its stormwater operations and maintenance activities with Road Fund monies. The County is constrained by funding levels and legal limitations on the use of the Road Fund.

CONCLUSIONS

In River Road and Santa Clara, the City provides stormwater infrastructure for annexed properties and the County provides and maintains stormwater infrastructure for County roads in unannexed areas. In Santa Clara, newer subdivisions contain curb and gutter stormwater collection systems, which then typically drain into the disconnected open waterway system. Because development in River Road is typically older than in Santa Clara, it has many streets and roads without curbs and gutters, and stormwater drainage is gathered in grassy roadside ditches. The issue of connection to the stormwater system is not unique to the River Road/Santa Clara area. Other neighborhoods in Eugene have areas without gutters in the streets or connections to the City's stormwater system.

Through an IGA, Lane County maintains stormwater systems generally north of Beltline east of River Road and north of Maxwell west of River Road, and the City maintains systems south of Beltline east of River Road and south of Maxwell west of River Road.

The City of Eugene addresses stormwater problems on a stormwater basin basis. At this time, there is no Basin Master Plan for the River Road Santa Clara area, but it is under development.

The Boundary Commission requires that a property receive a minimum level of stormwater services before it will approve annexation to the City of Eugene.[20] The City of Eugene interprets this requirement for existing development to mean that the City is responsible for approving a disposal system for stormwater, which does not have to be connected to the City's stormwater system, but may be a ditch, drywell, pond, creek, river or stormwater system pipe.[21]

Operations and capital are funded by users, so the City's resources are not negatively impacted by annexation. Annexing individual homes and adding them to the system only marginally affects the drainage system. The property owner would pay for any required improvements (i.e., connections, gutters, and catchbasins) to the property,

[20] City of Eugene Annexation Information and Forms Packet: River Road/Santa Clara area, http://www.ci.eugene.or.us/pdd/Planning/Applications/annexation/rrsc.pdf.

[21] Personal communication with Kurt Yeiter, Principal Planner, Eugene Planning and Development, June 7, 2004.

and then monthly service fees cover operations. It is beyond the scope f this study to determine the average cost for property owners to connect to the stormwater system.